

Attorney Docket No.: KUZ0028US.NP
Inventors: Tateishi et al.
Serial No.: 10/566,350
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REMARKS

Claims 1-9 and 11-19 are pending in the instant application. Claims 1-9 and 11-19 have been rejected. Claim 7 has been amended. Claim 20 has been added. Support for the amendments is provided in the specification at pages 13-15. No new matter has been added by these amendments. Reconsideration is respectfully requested in light of the following remarks.

I. Rejection of Claim 15 under 35 U.S.C. 112, second paragraph

Claim 15 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner suggests that there is insufficient basis in claim 7 for recitation in claim 15 of "wherein the (meth)acrylic ester constituting the acrylic polymer is 2-ethylhexyl acrylate".

Applicants respectfully disagree as claim 7 depends from claim 1 wherein the (meth)acrylic ester is claimed.

Further, in an earnest effort to advance the prosecution of this case, Applicants have amended claim 7 to correct antecedent basis issues with respect to percutaneous absorption promoters. Support for this amendment is

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provided in the specification at pages 13-15. No new matter is added.

Withdrawal of this rejection is therefore respectfully requested.

II. Rejection of Claims 1-9 and 11-19 under 35 U.S.C. 103(a)

Claims 1-9 and 11-19 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Modamio et al. (Int. J. Pharmaceutics 1998 173:141-148) in view of Hirano et al. (U.S. Patent 6,495,159) and Higo et L. (U.S. Patent 5,866,157) further evidenced by Walters (Transdermal Drug Delivery, 1989, New York, NY, pp 97-246).

Applicants respectfully traverse this rejection.

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

(A) the claimed invention must be considered as a whole;

(B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

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(D) reasonable expectation of success is the standard by which obviousness is determined. See MPEP 2141.

The cited combination of references fails to meet these tenets.

The claimed invention is a pressure-sensitive adhesive layer comprising bisoprolol and/or a pharmaceutically acceptable salt thereof (Feature A) and also containing an acrylic polymer obtained by copolymerizing a (meth)acrylic ester with a (meth)acrylic acid comprising a carboxyl group (Feature B). As taught in paragraph [0011] of the instant application, with these features, the adhesive patch is "excellent in penetration through the skin, while a blood concentration does not transiently rise".

Nowhere do the cited references teach or suggest a patch with Features A and B nor provide any reasonable expectation of success with respect to the results achieved with a patch with Features A and B.

Modamio et al. (International Journal of Pharmaceutics 1998 173:141-148) is completely silent about Features A and B of the present invention. Instead, Modamio et al. describe *in vitro* permeation experiments investigating applicability of bisoprolol to TTS with no substantial description whatsoever of a patch using bisoprolol.

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Instead, the authors used exclusively solutions as opposed to a patch in their experiments. Further, it is respectfully pointed out that the Examiner's suggestion of Modamio teaching a "patch" with a surface area of 16 cm² is in error. The "16 cm²" area is merely a putative area used for calculation.

Hirano describes a percutaneous therapeutic apparatus having at least three layers comprising: (A) a medicine non-permeable backing layer, (B) a medicine storage layer containing serotonin-receptor antagonist between the backing layer and a medicine-releasing layer, and (C) a pressure-sensitive layer which is able to control release of medicine. The apparatus aims "to control release of medicine by a simple structure" (e.g. column 2, line 56). While the apparatus of Hirano could comprise Feature B of the present invention, Hirano is silent about Feature A of the present invention. In fact, no drug exists in the pressure sensitive adhesive of Hirano at least when manufactured.

Conversely, Higo fails to disclose Feature B of the present invention.

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Further, combining the teachings of Modamio et al., Hirano and/or Higo provides no reasonable expectation of success with respect to a patch with the effect of the present invention. In fact, addition of a drug into the (outermost) adhesive layer of Hirano, as taught by Higo, would disrupt the release control, and mounting a drug-free adhesive layer on the adhesive layer of Higo, as taught by Hirano, would be detrimental to skin-permeability of the drug on the other. Accordingly, the combination of these references clearly provides no reasonable expectation of success with respect to a patch of the instant claimed invention.

In addition, of the two patch types of the present invention, a reservoir type and a matrix type, the latter is even further distinguishable from the cited prior art. The only constitution for release control referred to in Hirano or Higo is the layer constitution and the compositions disclosed in Hirano, which reference is relevant only to a reservoir type. The matrix type patch of the present invention therefore is impossible to be conceived from the cited prior art references, which are totally silent about such a form of release control.

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Further, while Higo as well as Hirano at least formalistically disclose as one of the examples of hydrophobic high molecular material an acrylic polymer, neither reference actually discloses a specific patch using the acrylic polymer. Furthermore, Hirano describes use of an acrylic adhesive merely "able to be used simultaneously with the rubber elastomer" (column 6, lines 25 to 26) with no teaching or suggestion that said acrylic polymer is useful in release control, while Higo not only fails to cite a specific patch using the acrylic polymer, but teaches away by illustrating examples containing either SIS, PIB or a mixture thereof only as the hydrophobic high molecular material, and describing "(A)mong them, SIS, PIB and blends of the two materials are most preferable". Accordingly, it is only with the benefit of impermissible hindsight vision afforded by the claimed invention that these references can be combined and suggested to be relevant to the instant claimed invention.

Thus, the cited combination of references clearly fails to meet the basic tenets required to render obvious the instant claimed invention.

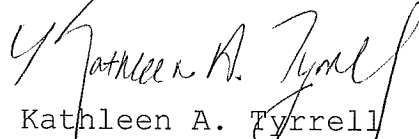
Withdrawal of this rejection under 35 U.S.C. 103(a) is therefore respectfully requested.

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III. Conclusion

Applicants believe that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,


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